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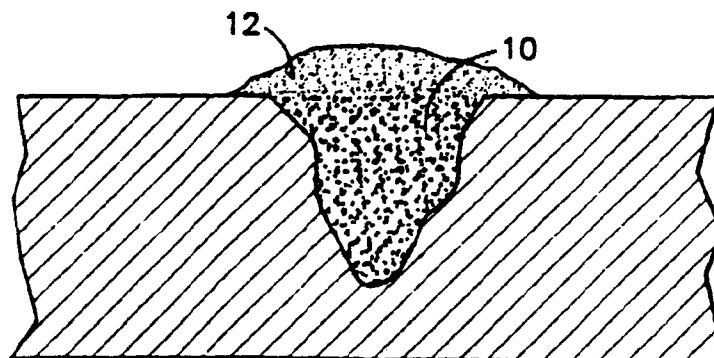
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(54) **Method of repairing metallic alloy articles, such as gas turbine engine components**

(57) A method of repairing a metallic alloy article having a defect cavity greater than about 0.010 inches ( $2.5 \times 10^{-4} \text{m}$ ) in maximum width is disclosed. One aspect of the invention includes providing a first metallic filler material (10) in the defect cavity such that the first metallic filler material (10) substantially fills the cavity. The composition of the first metallic filler material (10) corresponds substantially to that of the metallic article. A second metallic filler material (12) is provided over the first metallic filler material (10). The second metallic filler

material (12) includes between about 0 wt. % and about 40 wt. % metallic filler material of a composition corresponding substantially to the metallic article, and between about 100 wt. % and about 60 wt. % metallic filler material having the same basis as the composition of the metallic alloy article and including a melting point depressant in an amount substantially in excess of that in the metallic alloy article. The article is thermally processed through a heat treatment to effect an isothermal solidified repair.



**FIG. 3**

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X A	US 4 073 639 A (DUVALL ET AL.) 14 February 1978 * column 1, line 54 - line 64 * * example 1 * ---	1-3, 8-10,14 4-7	B23K20/233
A	US 4 522 664 A (GIGLIOTTI JR ET AL.) 11 June 1985 * column 2, line 44 - line 62 * * tables 1,2 * ---	1-14	
A	EP 0 205 859 A (BBC A.G.) 30 December 1986 * the whole document * -----	1-14	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B23K
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>31 August 1998</b>	Examiner <b>Herbreteau, D</b>
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
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